

WHAT IS CLAIMED IS

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1. An optical writing unit, comprising:

a light emitting device array that further
comprises a plurality of light emitting device array
chips, each of which comprises a plurality of light
10 emitting devices that are arranged at a
predetermined interval P, and

an image forming device array that further
comprises image forming devices,

wherein light volume of the light emitting
15 devices is set up such that a predefined property
value concerning an exposure intensity distribution
of each of the light emitting devices falls within a
predetermined range, the predetermined range being
defined for an effective image area in its entirety,
20 and the light volume of the light emitting devices
that are located on and near an edge of the light
emitting device array chip can be set differently
from other light emitting devices.

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2. The optical writing unit as claimed in
claim 1, further comprising operating process means
5 for setting up the light volume for each of the
light emitting devices to irradiate, wherein each of
the light emitting devices is driven based on the
light volume set up by the operating process means.

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3. The optical writing unit as claimed in
claim 2, wherein the operating process means are
15 arranged for acquiring a correlation between the
light volume and the property value for each of the
light emitting devices, based on a result of
measuring the property value corresponding to the
light volume.

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4. The optical writing unit as claimed in
25 claim 2, wherein the operating process means are

arranged for acquiring the range of the property
value that the light emitting device should take,
based on the property values of the light volumes of
a plurality of the preceding light emitting devices.

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5. The optical writing unit as claimed in
10 claim 2, wherein the operating process means are
arranged for determining the light volume of each of
the light emitting devices using a compensation
value for a driving current.

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6. The optical writing unit as claimed in
claim 1, wherein the light volume of the light
emitting devices that are located on and near an
20 edge of the light emitting device array chip can be
set differently from the other light emitting
devices.

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7. The optical writing unit as claimed in claim 1, wherein the light volume of the light emitting devices that are located on and near the edge of the light emitting device array chips is set up in the case that an interval P_a between one of the light emitting devices on the edge of one of the light emitting device array chips and another one of the light emitting devices on the edge of an adjacent one of the light emitting device array chips is different from the predetermined interval P by more than 10%, namely, in the cases of $P_a > 1.1P$ and $P_a < 0.9P$.

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8. The optical writing unit as claimed in claim 1, wherein the property values of more than $M/2$ of the light emitting devices that are located on and near the edge of each of the light emitting device array chips are measured, when the property values of a total of M of the light emitting devices are measured.

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9. An image forming apparatus for forming
5 an image, comprising an exposure unit that further
comprises an image forming device array and a light
emitting device array that further comprises a
plurality of light emitting device array chips, each
of which comprises a plurality of light emitting
10 devices, wherein light volume of the light emitting
devices is set up such that a predefined property
value concerning an exposure intensity distribution
of each of the light emitting devices, which
correspond to an effective image area in its
15 entirety, falls within a predetermined range, and
the light volume of the light emitting devices that
are located on and near an edge of the light
emitting device array chip can be set differently
from the other light emitting devices.

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10. A driving method of an optical writing
25 unit that comprises an image forming device array

and a light emitting device array that further
comprises a plurality of light emitting device array
chips, each of which comprises a plurality of light
emitting devices, wherein light volume of the light
5 emitting devices is set up such that a predefined
property value concerning an exposure intensity
distribution of each of the light emitting devices,
which correspond to an effective image area in its
entirety, falls within a predetermined range, and
10 the light volume of the light emitting devices that
are located on and near an edge of the light
emitting device array chip can be set near a limit
of the predetermined range.

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11. An optical writing unit, comprising:
a light emitting device array that
20 comprises a plurality of light emitting device array
chips, each of which comprises a plurality of light
emitting devices that are arranged at a
predetermined interval P , and
an image forming device array that further
25 comprises image forming devices,

wherein light volume of the light emitting devices is set up such that gradient of an approximated regression line for exposure areas corresponding to a plurality of the light emitting devices that are selected at a predefined cycle falls within a predetermined range, the predetermined range being defined for an effective image area in its entirety, and the light volume of the light emitting devices that are located on and near an edge of the light emitting device array chips are set up such that said gradient corresponds to an interval P_a between the light emitting device on the edge of one of the light emitting device array chips and the light emitting device on the edge of an adjacent one of the light emitting device array chips.

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12. The optical writing unit as claimed in claim 11, wherein the predefined cycle is a constant throughout the light emitting device array.

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13. The optical writing unit as claimed in
claim 12, wherein one cycle of the predefined
5 constant cycle comprises $M+N$ of the light emitting
devices, where M represents the number of the light
emitting devices that are selected, N represents the
number of the light emitting devices that are not
selected, and M is equal to or less than N .

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14. The optical writing unit as claimed in
15 claim 11, wherein the interval of the light emitting
devices is set equal to $1/10$ or less than $1/10$ of
the interval of the image forming devices.

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15. The optical writing unit as claimed in
claim 11, wherein the approximated regression line
of the exposure areas corresponding to the plurality
25 of light emitting devices is obtained from a

plurality of the light emitting devices that are located within a range between LK and 3LK, where LK represents the interval of the image forming devices.

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16. The optical writing unit as claimed in claim 11, wherein intervals between the light emitting device on the edge of one of the light emitting device array chips and the light emitting device on the edge of an adjacent one of the light emitting device array chips, are categorized into a plurality of ranks based on the magnitude of the intervals, and the light volume of each of the light emitting devices is set up according to said ranks.

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17. The optical writing unit as claimed in claim 16, wherein said ranks comprise three ranks, namely, $P_a < P_L$, $P_L \leq P_a \leq P_H$, and $P_H < P_a$, where P_a represents the interval between the light emitting device on the edge of one of the light emitting

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device array chips and the light emitting device on the edge of an adjacent one of the light emitting device array chips, and PL and PH represent predetermined threshold levels of the interval,

5 where $PL < PH$.

10 18. The optical writing unit as claimed in claim 17, wherein the light volume is increased where $P_a > PH$, and the light volume is decreased where $P_a < PL$.

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19. The optical writing unit as claimed in claim 17, wherein PL is set at $0.9P$, and PH is set at $1.1P$, where P represents the predetermined interval of the light emitting devices.

20 20. The optical writing unit as claimed in

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claim 11, wherein the light emitting devices that are located on and near an edge of the light emitting device array chip are the light emitting devices that correspond to a range of distances
5 between 0.5LK and 1.5LK, where LK represents the interval of the image forming devices.

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21. An image forming apparatus for forming an image, comprising an exposure unit that further comprises an image forming device array and a light emitting device array, comprising a plurality of
15 light emitting device array chips, each of which comprises a plurality of light emitting devices arranged at a predetermined interval, wherein the light volume of each of the light emitting devices is set up such that the gradient of an approximated
20 regression line of exposure areas corresponding to a plurality of the light emitting devices that are selected based on a predetermined cycle falls within a predetermined range for an effective image domain in its entirety, and the light volume of each of the
25 light emitting devices on and near the edge of the

light emitting device array chip is set up such that said gradient corresponds to an interval between the light emitting device on the edge of one of the light emitting device array chips and the light emitting device on the edge of an adjacent one of the light emitting device array chips.

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22. A driving method for driving an optical writing unit comprising an exposure unit that further comprises an image forming device array and a light emitting device array, comprising a plurality of light emitting device array chips, each of which comprises a plurality of light emitting devices arranged at a predetermined interval, wherein the light volume of each of the light emitting devices is set up such that the gradient of an approximated regression line of exposure areas corresponding to a plurality of the light emitting devices that are selected based on a predetermined cycle falls within a predetermined range for an effective image domain in its entirety, and the light volume of each of the light emitting devices

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emitting device on the edge of one of the light
5 emitting device array chips and the light emitting
device on the edge of an adjacent one of the light
emitting device array chips.